

WHAT IS CLAIMED IS:

1. A delivery system comprising a homogenous, thermoreversible gel film, wherein said gel film comprises: (i) a film forming amount of kappa-2 carrageenan and optionally at least one of a plasticizer, a second film former, a bulking agent, and a pH controlling agent; and (ii) an active substance.
2. The delivery system of claim 1, wherein said active substance is at least one of an oral care agent, a breath freshening agent, antimicrobial agent, cooling agent, a pharmaceutical agent, a nutraceutical agent, a salivary stimulant agent, cosmetic ingredient, agricultural active, a vitamin, a mineral, a coloring agent, a sweetener, a flavorant, a fragrance or a food.
3. The delivery system of claim 1, wherein said gel film further comprises at least one of potassium, sodium or ammonium cation in an amount less than 20% by dry weight of the kappa-2 carrageenan in the gel film.
4. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of at least 0.5% by dry weight of the gel film.
5. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of 0.5% to 25% by dry weight of the gel film.

6. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of 1.5% to 25% by dry weight of the gel film.
7. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of at least 10% of the total dry weight of film formers in the gel film.
8. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of at least 20% of the total dry weight of film formers in the gel film.
9. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of at least 50% of the total dry weight of film formers in the gel film.
10. The delivery system of claim 1, wherein said kappa-2 carrageenan is present in an amount of at least 80% of the total dry weight of film formers in the gel film.
11. The delivery system of claim 1, wherein said kappa-2 carrageenan is the only film former present in the gel film.
12. The delivery system of claim 1, wherein said second film former is selected from the group consisting of starch, starch derivative, starch hydrozylate, cellulose gums, kappa carrageenan, iota carrageenan, alginates, propylene glycol alginate, polymannan gums, dextran, pullulan, gellan, pectin, alkylcellulose ethers and modified alkyl cellulose ethers.

13. The delivery system of claim 1, wherein said plasticizer is at least one member selected from the group consisting of glycerin, sorbitol, maltitol, lactitol, corn starch, fructose, sucrose, and polyalkylene glycols; said second film former is at least one member selected from the group consisting of a starch, starch derivative, starch hydrozylate, cellulose gum, kappa carrageenan, iota carrageenan, alginates, propylene glycol alginate, polymannan gums, gellan, pullulan, dextran, pectin, an alkylcellulose ether and a modified alkyl cellulose ether; and said bulking agent is at least one member selected from the group consisting of microcrystalline cellulose, sugar, corn syrup, polydextrose, starch, starch derivatives, inulin, and starch hydrozylates.

14. The delivery system of claim 1, having a break force strength of at least 2,500 grams.

15. The delivery system of claim 1, having a break force strength of at least 4,000 grams.

16. The delivery system of claim 1, having a break force strength of at least 5,000 grams.

17. The delivery system film of claim 1, having a break force strength of at least 6,000 grams.

18. A process for preparing the homogeneous gel film delivery system in any of claims 1-17 comprising the steps of:

(i) heating, hydrating, mixing, solubilizing and, optionally, de-aerating said kappa-2 carrageenan and optionally at least one of a plasticizer, a second film former, a bulking agent, and a pH controlling agent in an apparatus providing sufficient shear, temperature and residence time to form a homogeneous molten composition, wherein said temperature is at or above the solubilizing temperature of said composition;

(ii) adding an effective amount of an active substance either prior to or after formation of the molten composition; and

(iii) cooling said molten composition containing said active substance at or below its gelling temperature to form said gel films containing said active substance.

19. The process of claim 18, wherein said active substance is at least one of an oral care agent, a breath freshening agent, an antimicrobial agent, a cooling agent, a pharmaceutical agent, a nutraceutical agent, a salivary stimulant agent, a vitamin, a mineral, a cosmetic ingredient, an agricultural active, a coloring agent, a sweetener, a flavorant, a fragrance, a food.

20. The delivery system of claim 1, having a break force strength of at least 250 grams.

21. The delivery system of claim 1, having a break force strength of at least 1,000 grams.

22. The process of claim 18, wherein said apparatus is a Ross mixer, Stephan processor, extruder, jet cooker or fluid mixing apparatus.

23. The delivery system of claim 1 having a solids content of at least 50%, wherein said kappa-2 carrageenan has an extract viscosity of less than 10 cps at 75 °C as measured in a 1.5% solids 0.10 molar sodium chloride solution.

24. The delivery system of claim 1, further comprising a flavorant and having a solids content of at least 50%.